

# Psychological Bulletin

EDITED BY

SHEPHERD I. FRANZ, GOVT. HOSP. FOR INSANE

HOWARD C. WARREN, PRINCETON UNIVERSITY (*Review*)JOHN B. WATSON, JOHNS HOPKINS UNIVERSITY (*J. of Exp. Psych.*)JAMES R. ANGELL, UNIVERSITY OF CHICAGO (*Monographs*) ANDMADISON BENTLEY, UNIVERSITY OF ILLINOIS (*Index*)

WITH THE CO-OPERATION OF

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## CHILD AND EDUCATIONAL PSYCHOLOGY NUMBER

EDITED BY B. T. BALDWIN

### CONTENTS

#### *General Reviews and Summaries:*

*Adolescence*: B. T. BALDWIN, 335. *Educational Psychology*: B. T. BALDWIN, 341. *Child Psychology*: D. MITCHELL, 351.

#### *Special Reviews:*

*Bronner's Special Abilities*: S. ISAACS, 361. *Whipple's How to Study Effectively*; *Dearborn's How to Learn Easily*: G. R. WELLS, 364.

*Notes and News*, 365.

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THE

# PSYCHOLOGICAL BULLETIN

## GENERAL REVIEWS AND SUMMARIES

### ADOLESCENCE

BY BIRD T. BALDWIN

*The State University of Iowa*

In a quasi-scientific manner Starr (34) presents in a suggestive little volume on adolescence chapters on growth, muscular development, physical education, diseases of adolescents, criminal tendencies, and sex enlightenment. No other books falling within the direct connotation of the psychology of adolescence have been issued since our last *Sammelbericht* (2) but within the range of special studies definite work has been accomplished.

*Juvenile Delinquency*.—A London journal of July 3, 1917, calls attention to the serious increase in juvenile crime due to war conditions which is being brought to the notice of the Home Secretary by various societies interested in child welfare. It is stated that three remand homes are full of culprits sent from various London courts, including the Tower Bridge gang of van robbers, whose ages scarcely reached double figures, and the leader of the Clutching Hand band, who is barely twelve years old. These two bands of young ruffians stole parcels from vans and turned them into coin for the purchase of pistols, knives, torches and swords. Similar authentic accounts of the increase of juvenile delinquency in Canada have been given. Haines (22) calls attention to the increase of crime in Ohio and True (37), Abbot and Breckenridge (1) have published excellent books on lawlessness and truancy. Of particular note in this connection are Goddard's (20) *Criminal Imbecile*, Gruenberg's (21) *Sons and Daughters* and Weidensall's (38) *Mentality of the Criminal Woman*.

The delinquent problem is involved with that of mental de-

ficiency. Williams (39), who examined 150 boys by the Stanford Revision of the Binet-Simon Measuring Scale of Intelligence finds: Definitely feeble-minded 28 per cent., borderline 25 per cent., "dull normal" 22 per cent., normal or above 25 per cent. He finds that among this group of delinquents there has been much truancy; that many have been expelled or otherwise dismissed from school before a reasonable amount of school training had been received; that this dismissal from school has been most frequent in towns where no provision has been made for special instruction for exceptional or unruly children.

A psychological analysis of the mental traits of juvenile delinquents and a constructive, critical evaluation of mental tests furnish the purpose of Baldwin's (3) investigation of 1,000 delinquents. The scope includes a statistical and a graphic representation of the fifty-nine tests on a thousand individuals, supplemented by the subjects' physical condition, hereditary orientation, social deviation and school progress. Social deviation of the nature of the delinquency is correlated with and partially dependent on mental deficiency, since 43 per cent. of the white girls are retarded 4 years or more; 47 per cent. of the colored girls; 22.2 per cent. of the one group of white boys; and 43.82 per cent. of the other group.

In order to test the validity of the different revisions and to compare their results, 100 girls were tested by Fernald (15) with each of the four revisions: Binet, 1911; the Huey Revision; the tentative Stanford Revision of 1914; and the final Stanford Revision of 1916, with the following results: moron 24 per cent.; borderline 12 per cent.; normal and low normal 51 per cent.; unusual ability 13 per cent.

Bronner (8) analyzes the effect of *Adolescent Instability on Conduct* and Ordahl (31) finds 25 per cent. of the minor dependents, 45 per cent. of the minor delinquents are feeble-minded: in both the minor dependent and the minor delinquent groups 60 per cent. of the parents, so far as data were available, are either alcoholic, immoral, feeble-minded or insane: the chief offenses of the boys are truancy and offenses against property, of the girls immorality; boys below 14 years of age apparently become delinquent because of a lack of proper home control, boys above this age because they have not the necessary intelligence to make needed adjustments.

Among other important experimental investigations in Juvenile Delinquency may be mentioned those by Beanblossom (5), Haines (23), Healy and Bronner (26), Hickman (27), Sterns (35, 36).

Baldwin (4) working with a retarded adolescent boy of strong moral traits believes that any scale of intelligence that measures a deficient child in terms of the normal child overlooks certain characteristic traits, emotions, instincts, and certain stages and nodes of mental maturation, and possibly a certain acuity of sensory-motor reactions which should be taken into consideration. It is the purpose of this paper to initiate further study into the types of mental retardation, with the accompanying mental defects and bias, from the psycho-etiological standpoint, in order that more systematic analyses may be made and causal relations established.

Important psycho-sociological studies in heredity of special families in which delinquency has been a potent factor for consideration are those of *The Feebly Inhibited* by Davenport (13), *Sam Sixty* by Kostir (29), the *Dack Family* by Finlayson (16), the *Jukes* in 1915 by Estabrook (14), and Yerkes (42) *Will-Being*.

*Moral Education*.—Healy (25) gives a good study of types of deviation from accepted standards of honesty among juvenile delinquents and analyzes the fundamental motives leading to dishonesty under the captions: home conditions and parental behavior, companionship, discipline, amusement and adventure, mental, physical and social habits, and dishonesty as an outgrowth of various forms of abnormal mentality.

Giles (19) finds the problem of the first period of adolescence is one of trial and discovery; the essential problem of the second period is one of control of the newly discovered self and this problem often lasts until well on into mature life, and in some cases is not solved at all. Schematically, then, the progress in the development of the individual during adolescence is as follows: There is a lull physically in the years immediately preceding adolescence, with fairly good conduct; but with the increase in strength and the impulsion of new-felt powers—mental and physical—the growth of sex, etc., there comes a general revolt against restraint. In this period so much of the petty stealing and truancy occur, and here is the critical period which lasts until moral values are established. Then there is a division into two groups—the class which solves the problem of control and organizes life on social lines, and another class, the members of which for reasons of environment or heredity follow the path of desire, delinquency and crime. We may say summarily that the problem of education in the adolescent period is to provide an environment wherein the individual can find sufficient freedom to try out his social impulses, yet an environment so

organized that he shall not take a distinctly unsocial or immoral combination of them.

From the standpoint of adolescent religion Coe (11) gives a number of interesting studies on conversion, Huth (18) discusses religious concepts among adolescents and Hartshorne (24) holds that there is a tendency during early adolescence for worship, and to move away from the more personal or individualistic topics toward topics of wide social bearing. Forbush (17) orientates child training from a moral point of view, while Shepherd (33) discusses the religious aspects and Whitney (40) carried on experimental investigations in morals.

*Vocational Guidance.*—Bloomfield and Suzallo (7) outline what is being done in some cities in Great Britain, Germany and the United States by way of vocational guidance for adolescents and Gaylor (18) finds that a large percentage of adolescent boys and girls do not definitely decide their life work until their first year of high school; a large percentage vacillate, influenced by a teacher's personality; and there is a greater school life expectancy for those who remain constant in choice than for those who change.

Particular interest in England in regard to the vocational life of adolescent girls is shown by the writings of Charlesworth (10), Courtney (12), Oldham (30). For an extensive annotated bibliography on the recent tendencies in military training here and abroad for adolescents, reference may be made to the monograph by Burgess, Cummings and Tomlinson (9).

*Mental Tests.*—The reviews of mental tests will be found in other numbers of the BULLETIN, but of particular interest in this connection is the work of Woolley (41) which is based on the idea that while no one test yields a satisfactory measure of ability, a group of tests does give a significant result. These scales, combining mental and physical measurements, are for fourteen- and fifteen-year-old native-born white children and are based on the testing of 750 fourteen-year-old children who were dropping out of school to go to work, and on 680 of the same children at fifteen years of age, after they had been at work for one year. The same tests have been given to a group remaining in school but the scales for them are not ready for publication. In most of the tests the girls are a little superior to the boys, excepting in tests for mechanical ingenuity; the scale has given a new method of measuring the higher grades of mental defect. Of similar interest are the tests of Porteus (32). The application of special tests to the later adolescent

period has received special attention and they have been summarized by Bingham (6).

As an evidence of the popular interest in psycho-analysis there is an unfortunate tendency for laymen to advocate the use of Freud's methods by untrained teachers in public schools.

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## EDUCATIONAL PSYCHOLOGY

BY BIRD T. BALDWIN

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*Texts, Treatises, Monographs and Manuals.*—The past two years have been prolific in the production of texts and monographs of psycho-educational import, though no comprehensive and fundamental treatise in educational psychology has appeared since our last *Literaturebericht* of 1915 (8). These contributions center around the general principles in Educational Psychology, Formal Discipline, How to Study, and Experimental Exercises and Investigations.

With a strong psychological bias due to the deep insight of the late Dr. Norsworthy, the new text by Strayer and Norsworthy (85) presents in fifteen chapters the fundamentals of the art of teaching. The method of the teacher is determined by the special development of each pupil and the aim is determined by society. Mental development is treated from the standpoints of original nature, attention, habit, memory, imagination, thinking processes, appreciation, play, individual differences, child development, and transfer of training, with a consideration of classroom exercises, how to study, and the measurement of the achievement of pupils.

The first part of Dewey's (26) significant book includes chapters dealing with education from the social, the biological, and the disciplinary points of view. There is a detailed consideration of the doctrine of interest and an analysis of thinking in its relation to experience and to the method of education. The second part of the book deals with the significance of the various subjects of the curriculum, the values of different types of education and theories of knowledge and morals. A good book which might well furnish the background for an introduction to educational psychology is that of Conklin's (19) new work in anthropology.

The most serviceable book that has appeared on the measurement of intelligence is that of Terman (87) which gives in detail the Stanford Revision of the Binet Scale. Part I has seven chapters: I, The uses of intelligence tests; II, Sources of error in judging intelligence; III, Description of the Binet-Simon method; IV, Analysis of one thousand intelligence quotients; VI, The significance of various intelligence quotients; and VII, Reliability of the Binet-Simon method. The second half of the book is devoted to a guide

for the use of the author's revised scale with examples and supplementary material.

Johnston (47) has issued a new edition of his *Modern High School* in which slight changes have been made by placing additional emphasis upon democratic ideals and Claparède has published a 1916 edition of *Psychologie de l'Enfant et Pedagogie experimentale*.

Among the important contributions from the experimental point of view to the problem of *Formal Discipline* are those of Rugg (68), Coover (20), Hewins (42) and Woodrow (96). The first author presents in condensed, tabulated form the results of the important studies on the subject up to the present time and gives an account of an elaborate experiment undertaken to determine the spread of improvement from a school subject to types of activity of a markedly different nature. He states that in the past sixteen years thirty experimental studies within this field have been published, and six of these have to do with school activities. Rugg's results show that there was a greater gain on the part of the trained group than of the untrained group, and that the gainers of the trained group gained in a distinctly larger proportion of the tests than did those of the untrained group.

An excellent monograph by Coover gives an orientation in the subject, recounting briefly the most important results of previous experiments. Part II, comprising over two hundred pages, reports the results of experiments with such exercises as marking out words, estimating weights, visual and auditory discrimination, and two extended series of tests on attention and reproduction. The author concludes that even the simplest exercises involving attention and reproduction are extremely complex processes from the point of view of the mental activities involved.

The first 48 pages of Hewin's monograph are devoted to a summary of psychological and pedagogical experiments on the subject of formal discipline, while the latter part gives an account of the author's own experiments with three classes of freshman pupils in a New York City high school on "the training of observation" in biology work. The results apparently gave evidence of improvement in one type of observation carried over to other kinds. For a semi-popular discussion of this problem Professor Shorey's articles in the contemporary numbers of the *Atlantic Monthly* may be cited.

Woodrow carried on experiments to determine how feeble-minded children compare with normal children of the same mental age as regards practice effects and the transfer of training. He

found that the degree of intelligence (mental age) is a condition of the rate of learning, but the rate of learning does not affect the rate of growth in intelligence.

From a pedagogical rather than from a scientific psychological point of view Hall-Quest (40) states that the aim of his book on supervised study is to formulate a tentative conception of supervised study and to collect data on supervised study that have appeared in several periodicals within the last five years and that may not be accessible to the majority of teachers. Sandwich (72) emphasizes the value of self-confidence, of a regular schedule for study, of the value of recall in learning, the use of the synopsis, the cultivation of rapid reading, and the effects of imaginary competition; Part II takes up the study of the values of the different school subjects. In a quasi-popular educational treatise Dearborn (25) discusses how to learn easily, including economy in study, observation and the taking of notes, educative imagination, books and their educative use, "Is your 'Thinker' in order?", examination preparedness, and originality.

In a tentative study which needs further differentiation and corroboration Thorndike, McCall and Chapman (90) attempt to determine the relation of ventilation to mental work.

In contrast with the earlier work in educational psychology as conducted by professional psychologists with a view to making an application of general psychological principles to education, the tendency is toward empirical studies; Freeman (32) in his book in experimental education "attacks directly the practical problems and attempts to throw light upon them by an analysis of the psychological principles which are involved in them." A brief introductory chapter gives an account of the significance of experimentation and general instructions as to methods of treatment of data. The next section of the book deals with experiments bearing directly on school subjects—writing, reading and number work. Finally, there appears a series of tests of the visual and auditory senses and of the higher mental functions. The descriptions of methods of treating results, including graphic representation and mathematical treatment and tabulation of data, are of especial value.

The Texas *Laboratory Manual in Experiments in Educational Practice* (43) aims to furnish elementary students with an introduction to experimental procedures in education and comprises experiments in the control of association, memory, imagination, the perceptual process, the higher thought processes, the control of

attention, motor learning, suggestion, individual differences, and mental measurements.

A syllabus by McManis (54) of 15 chapters with 254 appended references is adapted for observational and experimental work in individual psychology with special reference to growth, home conditions, instincts, school life, mental traits, learning processes, language, drawing, motor coördination, moral ideas, and individual differences. The references are well selected, the outline of topics suggestive, and the contents serviceable for introductory normal-school classes. Meredith's (55) little book gives a review of the services which psychology is rendering to the study and practice of education. Pyle (66) has issued a booklet which gives scores for the simple physical and mental tests such as height, lung capacity, strength of grip, association, rote and logical memory, substitution, and other tests. Among the psycho-educational investigations appearing in the Fifteenth Year Book of the Society for the Study of Education (57) bearing on the subject of educational psychology may be noted those of Baldwin, Ballou, Buckingham, Courtis, Judd, Oberholtzer, Sears, Starch, Trabue, and Whipple. The Sixteenth Year Book (58) contains the second report of the committee on minimum essentials in elementary school subjects.

*Studies in Motor Coöordination.*—Various aspects of the analysis of motor coöordination in speech have been tried by Dunlap (28), Swift (86), and Blanton (11); rhythm by Crawford and Fogg (22); left-handedness by Jones (48); motor learning by Pechstein (61); and the use of the form board by Wallin (93). Cellérier (15) briefly analyzes habit-formation.

The effects of physical fatigue on mental efficiency have been studied experimentally by Dockeray (27), Poffenberger and Tallman (65) and Gates (34). For the numerous studies in Attention, Memory, Learning, etc., and the extensive developments and use of Mental Tests references will be found in other numbers of the BULLETIN.

*Educational Institutes and Agencies.*—The Leipzig Institute (1) for experimental education and psychology numbered in 1914 one honorary member (Wilhelm Wundt), 168 active and 87 passive members. In spite of the fact that the outbreak of the war called away many of its members, it was decided to continue the work of the Institute as far as possible. The München Institute of Educational Psychology (2) began in 1914 and concerned itself primarily with questions of early childhood and the kindergarten education,

powers of expression in the child, and the sociological basis of education, but was forced to desist from several of its regular meetings owing to the outbreak of the war. An institute for the study of nervous children was established at Budapest. Mr. Burt, psychologist to the London County Council, indicates ways in which the psychologist and pedagogical research student can most helpfully coöperate during war time.

One of the most significant movements in America has been the establishment of the Iowa Child Welfare Research Station for the scientific investigation of the development of normal children. An annual appropriation of \$25,000 has been granted for the work.

Among the comprehensive applications of recent experimental studies in educational psychology are those of the Cleveland "Survey" under Ayres (6) and of the Salt Lake City measurements by Cubberley (24). Flexner's (30) *Modern School* will attempt to reveal many of the traditional absurdities of the present-day education, and will "try out" a curriculum constructed from the four domains of science, industry, aesthetics and civics. The school is be affiliated with Teachers College, Columbia University.

The new *Journal of Applied Psychology* (49) will have a direct bearing on educational psychology in that it includes studies of individual mentalities, such as types of character, special talents, genius and individual differences, including the problems of mental diagnosis and vocational prognosis, and the psychology of everyday activities, such as reading, writing, speaking, singing, playing games or musical instruments, sports and the like.

*Tendencies in Educational Psychology.*—From questionnaires filled out by 53 professors of educational psychology Hall-Quest (39) finds that educational psychology as now taught in our colleges and universities embraces the learning process, instincts, habit formation, individual endowment, the study of defective and exceptional children, the psychology of school subjects and its application to supervised methods of teaching, statistics, with general psychology as the essential prerequisite. Similar studies have been made by Smith (78), Fernberger (29), Peters (62), Vaissiere (92), and Pitt (64).

Kretzchmar (52) expresses his disappointment concerning the dearth of courses in pedagogy at the new Frankfurt University. Not only are the courses few and subordinate but they are given in most cases by lecturers and not by regular professors. Meumann (56) writes that the education of the people is not a new idea, but

one with which Germany must deal at the outcome of the war; it must have as its basis a strong, national consciousness, for in national feeling—a love of one's own people—lie the strongest foundations for unity and the preservation of learning.

After a survey of 400 investigations by members of the American Psychological Association, Baldwin (10) showed that about 80 per cent. of the psychologists were emphasizing individual psychology. A detailed differentiation is made between general psychology and mental tests based on the views of members of the American Psychological Association. Baldwin (7) also discusses the present status of the teaching of psychology in normal schools and Heilman (41) maintains that if the schools are ever to get the fullest benefit from psychology, they must employ specialists who have been trained in the use of psychology for the solution of educational problems.

*Standards and Measuring Scales in Education.*—The most significant tendency during the past two years toward the direct application of psychology to the processes of education is that of the formulation and extensive use of *measuring scales* which aim to establish norms for degrees of attainment in school subjects for the various grades or ages. All of these norms are necessarily tentative, some are very artificial and others have a good influence in helping to infuse a scientific point of view into education.

Among those who have applied scales extensively to state school systems are Asbaugh in Iowa, Buckingham in Wisconsin, Haggerty in Indiana, and Monroe in Kansas.

For the convenience of laymen Starch (80), Chapman and Rush (16), and Springer (79) have assembled selected scales and reprinted them in book form.

All of the so-called "scales" are based on empirical investigations and among those of special psycho-educational import are those in Arithmetic, by Courtis (21), Woody (97), Cobb (18), Jessup and Coffman (45), Haggerty (37), Smith (77); in Drawing, by Child (17), a text by Sargent and Miller (73) which throws much light on the problem of the psychological development of the drawing of school children through successive years and one by Ayer (4), which gives an analysis of the principles underlying the use of drawings as a means of recording laboratory data; in Geometry, Stockard and Bell (84); in History, Buckingham (14); in Language, Breed and Frostic (13), Cross (23), Jenkins (44), Sackett (69), Trabue (91); in Music, Seashore (76); in Physical Growth, Baldwin

(9); in Reading, Gray (35), Judd (50), Haggerty (38), Kallom (51), Pintner and Gilliland (63), Richards and Davidson (67), Starch (82), Schmidt (75), Thorndike (88); in Spelling, Arps (3), Ayres (5), Foster (31), Lewis (53), Otis (60), Sackett (71), Starch (83), and Winch (94); in Handwriting, Breed and Down (12), Freeman (33), Gray (36), Johnson and Stone (46), Nutt (59), Sackett (70), Schlag (74), Starch (81), Thorndike (89), Witham (95).

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## CHILD PSYCHOLOGY

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Child psychology is becoming more scientific. The number of articles by trained observers who obtained their material under controlled conditions is increasing. The majority, nevertheless, are general in character and written by observers with rather limited scientific training.

*General Discussion.*—Bruce (12) considers the psychology of childhood in a style which catches the attention of the lay mind. Consistent with the lack of profound psychological knowledge is the effort to bring the doctrine of the unconscious or subconscious into the foreground. Guyer (27) has an interesting chapter on the relation of the inherited mechanism to the child's behavior. Forbush in one book (23) discusses the various activities of the child in play, at home, and in school. Guidance is given in the study of the child's interests, his vacations and amusements. A second book (24) is intended primarily for parents but may be studied by all who have to do with children. It is encyclopædic in character and should be used only as a reference book. The first part deals with mental and physical growth and the second gives answers to questions frequently asked by parents. A full index makes the material easily accessible. Scott (54) interprets children to their parents. She emphasizes the great possibilities and considers the nature of disobedience and the parents' responsibility for it. She inveighs against an autocracy in the home and makes a plea for the careful study of the child. Crawford and Fogg (14) show the relation between the child's art expression and the evolution of the dramatic arts. Drummond (20) in a new and enlarged edition includes discussions of the "Montessori method" and of "Children who never grow up." Tanner (60) has rewritten and considerably enlarged her work. McManis (44) attempts to present psychology in its functional aspect and considers the plays and games, the instinctive

activities and mental characteristics of children. The syllabus is based on the theory that it is better to study individual cases than the child as a type or children in general. A new journal (33) has appeared. Its first volume is historical. In the second volume Van Wayenburg discusses child life, dividing it into periods "as he determines them to be for pedagogical and psychological studies," and Gunning "takes up the problem of influencing the will of children." Waddle and Root (65) present a syllabus and bibliography of child study.

*Kindergarten and Montessori Methods.*—The relation of the kindergarten to the activities of the first grade and to the Montessori Methods is becoming an important section of our discussions in child development. Atwood (2) discusses the activities of the kindergarten and their relation to the primary grade. Palmer (48) deals with the same problem and advises quietness in occupations, more independence in handwork periods, and the introduction of reading and writing into the curriculum of the kindergarten. The correlation of the two classes is apparently more important than the fundamental requirements of the child. Kilpatrick (34) in his usual keen way discusses the reform of kindergarten theory and practice. Additional elements are recommended for the kindergarten curriculum. MacLear (41) insists that old material can be discarded and new procedures adopted to keep the kindergarten in line with progressive principles and urges the adoption of some Montessori methods to rejuvenate the kindergarten procedure.

*Vocabulary and Speech.*—A good basis for the determination of the vocabulary of children is urgently needed. Observers of child language work independently and give little heed to the methods used by others. Brandenburg (10) reports the vocabulary of a three-year-old child to be 2,282. This child used the first word, "bye-bye," at 10 months and at 12 had added three other words, papa, mama, and baby. In teaching this child, all "baby-talk" was avoided and it was noticed that her sentence structure deteriorated during three months when she had companions of her own age. Words are stored in the subconscious realm and nouns are stored more rapidly than verbs. In a second study (11) in collaboration with the child's mother this author considers language development during the fourth year and compares the fourth-year vocabulary with the third. By the end of the later year the vocabulary has become less egoistic, relating more to nature, people, and abstract ideas. Drever (19) continues his study of children's vocabularies

and insists that there are three factors influencing the vocabulary, as shown in the use of nouns, of verbs, and of pronouns, adverbs, prepositions and conjunctions. Nice (47) continues her record of the vocabulary of an 18-months child, recording the vocabulary at various periods and showing the proportion of different parts of speech. The use of the different parts is in the following order, nouns at 14 months, verbs and adverbs at 16 months, interjections and adjectives at 17, pronouns at 22 and prepositions and conjunctions from 24 to 25 months. Bateman (3) supplies the vocabulary of a girl from 28 to 36 months and also presents that of a child for the first year. He discusses the words which should be included in a vocabulary, the acquisition of and progress in speech and the connotation of words. Langenbech (37) says that the vocabulary of a five-year-old child was 6,837. This was a precocious child who had shown natural development and at the age of five by the Binet-Simon tests graded eleven years. In order to get the vocabulary, every word used between the fifty-fifth and sixtieth month was recorded. Thomson and Smith (63) using a modified form of Kirkpatrick's vocabulary test, report the recognition of words by 467 children, ranging in age from 9 to 14 years. The results differ somewhat from Kirkpatrick's but he states that the numbers are insufficient for definite conclusions.

Consideration of defective speech is becoming more common. Blanton (7) reports the survey of all children in public and parochial schools in a city with a population of 30,000. He divides speech defects into three classes, stuttering, lisping, and miscellaneous. Individual children were examined and five per cent. were found to be suffering from speech defect. This is considerably larger than the ordinary percentage and he shows that it is related to feeble-mindedness and neurotic conditions. Wallin (66) by the questionnaire method collected statistics of speech defect among 90,000 children of St. Louis. He found that 14 out of every 500 children have some form of speech defect. Of these about one fourth were stutterers. Hinckley (30) presents the case of a five-and-a-half-year-old child who, although not deaf, had never used spoken language. She outlines the development of his speech and discusses the difficulty of various sounds. Stevens (56) considers the method of treatment for stuttering which she classes as a disease and not as a bad habit. "It is the expression of a psycho-neurotic state whose basic element is embarrassment or fear." Methods of treatment are summarized but there is little to indicate why class

work has limited value. Swift and Hedrick (59) discuss the various forms of movement which stutterers make in order to begin speech. The "starter" consists of any accessory motion or action gotten up by the patient to help his speech action. The efficiency of the starter consists in the diversion of attention.

*Natural Education.*—A considerable group of people realizes that education should be based upon the instinctive or fundamental reactions. Stoner (57) insists that a child should never be permitted to say "I can't" nor should he be frightened, ridiculed or scolded. An answer to a child's questions should never be refused. These are some of the psychologically sound tenets for natural education. Wiener in his translation of Pastor Witte's (69) book makes available for English readers a book published nearly one hundred years ago. It outlines the educational procedure of a father who believed that all children would profit much by systematic education from birth. Fisher (22) makes a plea for greater freedom and an expression of individuality in education and discusses the ways in which parents and teachers interfere with development. Read (51) presents in non-technical language the gist of scientific reports. Fundamental principles and facts rather than the rule-of-thumb procedure are considered. Berle (5) outlines methods for the instruction of young children and considers the problems of foreign language, botany, zoölogy, geometry, etc. Play is one of the fundamental reactions of a child and it has proved of great value in mental and physical development. Lee (38) insists that play should not be so strongly contrasted with work, since play is the serious business of childhood and as such is similar to work for adults. He divides childhood into four periods, three of the periods being characterized by some specific feature, such as the "dramatic age," etc.

*Exceptional Children.*—Grouping children as though they were a homogeneous mass is no longer acceptable to progressive educators and psychologists. We are hardly ready to accept the statement "Science has already furnished us with a means of identifying exceptional children, and of measuring the amount of their exceptionality so far as intelligence is concerned," which Garrison, Burke and Hollingworth (25) make in their report of one exceptional child. Reading the title leads one to expect that it is a child of great physical proportions but "the child is of that degree of exceptional intelligence possessed by but one child in more than a million." An illustration of his maturity is in the vocabulary test in which he defines *scorch* as "what happens to a thing when exposed to

great heat." Terman (62) compares the intelligence quotient with school progress and finds that many children are accelerated who are retarded when the chronological age is considered. He reports that according to the teacher's testimony exceptionally bright children are as healthy as average children; they are nearly always socially adaptable and are sought after as playmates and companions. As usual, efforts to provide means for dealing with the subnormal child result in valuable helps for the normal. The Hicks series (29) for atypical children is a group of psychologically well chosen stories. Holmes (32) describes backward children, gives a statement of causes for backwardness, and shows how permanent retardation may be determined. Hollander (31) emphasizes the importance of the exceptionally able child. Tucker (64) has a rather inadequate psychological knowledge for a discussion of the formation of habits. Wright (69) insists on the early education of the deaf child who should be "talked" to, attention being called to the lip movement, but no effort should be made to teach him to talk, since this requires the services of an expert. Peters (49) discusses the power of discrimination of primary and secondary colors among abnormal children who have no color names. Peters and Lazor (50) present a discussion of two children, one with marked ability in arithmetic and the other with a marked defect.

*Physical Characteristics.*—Since physical and mental development are supposed to go hand in hand, the development of physical characteristics is important in evaluating mental development. Tanner (61) gives a very important summary of the facts relating to a child's development including the special sense organs, reflexes, and instinctive movements. Dunham (21) outlines the physical characteristics which should be considered in grading intelligence. Myers (46) relates the various movements of a child during the first year of life. He reports touch sensation on the first day but "gentle, careful touch" did not appear until near the end of the eighth month. On the fifty-second day the child grasped strongly enough to support its own weight. de Busk (17) correlates vital index with school grade and mental age, those children with a high vital index being most mature. Smith (55) finds that among normal children five per cent. are left-handed and says that the high percentage of left-handed among the blind, the feeble-minded and the delinquent calls for further study and explanation.

*Intelligence Scales.*—From the Training School at Vineland there have issued two publications (6) of great value, being trans-

lations of all the known works of Binet and Simon which refer to the development and grading of intelligence. The first volume is concerned with general questions such as the establishing of a scientific method of diagnosis and the development of intelligence. The second volume discusses the intelligence and language of the feeble-minded and the relation of feeble-mindedness to dementia. Saffiotti (52) summarizes the attempts to measure intelligence. He was among the first to try the Binet tests and he compares the results obtained by his own method with those obtained by the Binet method. De Sanctis (18) discusses the measurement of intelligence and the mental development of the feeble-minded, the causes of deficiency and the detection of abnormal pupils in school. Types of schools and methods of teaching for the mentally deficient are considered.

*Special Topics.*—Kimmens (35, 36) in two articles discusses the interests of children of different ages in the war and in the hostile air raids. In the first article he had 3,081 children of ages from eight to thirteen write an essay about the war. There is shown a decided change of interest from year to year but in every case the child's interest was in the immediate happenings. There was considerable sex difference and one of the most marked characteristics was the maturity of the girls of thirteen. The second report from approximately 950 children gives similar results. Bateman (4) attempted to ascertain the color naming ability of 591 school children of the first three grades. The earliest recognition of color he reports at 16 months but 22 months is the usual age. More than 95 per cent. of these children passed the Binet test for recognition of four colors. The accuracy of naming increased with one semester spent in school and it is evident that American children are better than European children in this respect and could learn colors by the age of four. Lucas (39) following an earlier report on immediate recognition of numbers for a child three years eight months old, reports that at four years nine months seven objects are immediately recognized. More than seven must be laboriously counted. MacPherson (42) discusses the acquisition of skill in music and the awakening of an intelligent appreciation. For this topic the author requires more psychological knowledge than he apparently possesses. Sargeant (53) as a result of experience in the elementary school of education at the University of Chicago emphasizes drawing as a means of intellectual expression. A desire to tell something is the motive and improvement in this expression

is along specific lines and is not a general characteristic. Boyd (8) asserts that not enough attention is given to the ordinary questions which a child asks, while too much has been given to speculative questions concerning the nature and origin of things. He therefore recorded for one week at the three periods of three and a half, four and a half and five and a half years of age all the questions asked and incidentally recorded other questions asked between the ages of two and six. The number of sentences which were questions decreases after four years. This decrease "could only be attributed to mental growth." Guillet (26) discusses the meaning of words for a child at four, seven and ten years of age. He shows that the notion of three successive stages of "no content," "wrong content," and "partial content" is not well founded. The only possible conclusion is that children are liable to "guess" at words which they do not know. Day (15) records his own development in the production of a newspaper beginning at the age of five and running intermittently to eighteen. It reveals the earlier individualistic trend and indicates the development of the social point of view. In Malcolm's (43) report there is good material for the study of child psychology. This book contains stories written by a ten-year-old child and as first-hand material merits attention. Similar first hand material is given in Stoner's (58) "Facts in Jingles" written by this remarkable girl between the ages of five and twelve. Mabie (40) presents a first-class edition with colored illustrations of some of the always enchanting and ever engaging fairy tales. Boyd (9) considers the question of children's dreams. He says Freud's theory "is based entirely on the analysis of the adult mind and [with few exceptions] no attempt has been made to throw light on the questions it raises by the direct observation of children." He combats the notion that unfulfilled rather than suppressed wishes are responsible for all children's dreams. According to him "fear is as fundamental as desire in the subconscious promptings that issue in dreams." Hall-Quest (28) suggests that serious breaks in the adaptation of a child to succeeding environments are to be avoided. Advantage should be taken of the fundamental instincts. The right to play and the exercise of curiosity and imitation should never be refused.

*Experimental Studies.*—Winch (67) would answer the question whether or not words which have been learned in one situation are available for use in another. Is specific teaching of spelling necessary or wise? Eight experiments are tried, and the conclusion is

favorable to specific teaching since words which have been learned in lists may be spelled correctly in original composition. Mulhall (45) experiments on the ability to recall and recognize words, geometrical forms and nonsense syllables. On the basis of results for 638 children she concludes that a child's memory improves with age and grade and that girls are better for words and syllables, whereas boys are better for forms. Anderson and Hilliard (1) used a wide range of tests for 115 unselected children. They find considerable variation in ability and sex differences in most of the results. Dearborn, Anderson and Christiansen (16) describe eight different tests and give results for them stating that these are intended as alternate or equivalent tests where similar ones have been used frequently with the subjects. Carey (13) on the basis of results in tests and of marks obtained for various school subjects and the correlations among them attempts to answer the question whether or not there is a "general factor" in mental performances. In reference to the tests the evidence is not clear and in reference to the school work the conclusion is reached that there is a clear indication of the general factor but that as complications there exist other factors. Children with motor skill frequently lack general ability and the existence of a strong association between written words and their significance is a specific function in a certain number of subjects.

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## SPECIAL REVIEWS

*The Psychology of Special Abilities and Disabilities.* A. F. BRONNER.  
Boston: Little, Brown & Company, 1917. Pp. 269.

'The author notes that no attempt has been made as yet to formulate specifically the problem of specialized abilities and disabilities, and that there else have special defects been outlined  
of variation  
been

Having made this analysis, the "In both normal individuals and defective ones, the different mental functions in order to exist, they may be brought to light. The main emphasis is that in order to discover these functions, a search for them. That is, a wide enough range of tests must be used to give each individual a chance to show his abilities. The measuring scales of general intelligence" (p. 15)—are inadequate for the purpose. "The mental functions tested thereby are not numerous enough; none includes tests for a wide range of capacities. Many mental functions are not tested at all, and even those which are give very few clues to particular abilities. Fortunately, "there are now many other tests for various mental processes; the number is increasing rapidly. With the development of these tests, a wide range of capacities can be studied." Individual's success in solving problems is measured by the number of tests which are now in use, . . . for which are available, and which either are or soon will be. "Any differences which may be found in the results of the tests are presented thus concretely, in the abstract form, becoming the starting point of educational method." The tests are adapted to study the powers of apprehension, to bring up a situation and to grasp the general idea, important in all activities of life." A person uses the numerous other "powers," for memory, for logical, visual, auditory, etc., for association as a whole, and for the separate elementary forms of mental representations, to analyze, to compare, etc. "We find that for the study of power of memory there are the well-known Cross Line and Similarity tests, and to some extent other functions. Motor imagery may play quite a rôle." In the function of judgment, "we must take into account the fact that it is incidental to many tests one can determine the result of the test without actually judging." Mention is made of tests for motor control, for evaluating mental control, for the ability to follow directions, and to formulate general conclusions. The chapter on "Methods of Diagnosis" concludes with a summary of the methods of diagnosis.



case-studies of individuals "otherwise quite normal physically," and we are told that "the power to generate ideas and to keep such thoughts in the foreground so that they may become effective, is a power of mental life as is the capacity for recall; it is as important as performing any other mental function."

Abilities with General Mental Subnormalities, the type of mental irregularities and the analysis of them, "indeed, the type of research presented in this book is likely to be greatly extended in the future, that all the powers may be known."

The great contribution of this interesting book lies in the simple change in a preposition, but a change which has great theoretical and practical significance. Heretofore psychology has been largely concerned with the study of tests of perception, memory, and association, throughout of tests for these processes. The idea of "powers" is, of course, not new. The influence of phrenological psychology has been greatly

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*How to Study Effectively.* G. M. WHIPPLE. New York: Harper & Brothers Publishing Co. Pp. 44.

Dr. Whipple has limited himself to presenting a series of maxims which if intelligently followed will help one in studying. The rules are simply worded and clearly stated. They concern the physiological condition of the body, the physical arrangement of "tools," as lighting and study table, chair, desk, and place of study, hints as to effective motives for inducing study, and rules for recording and memorizing material.

No attempt has been made to introduce new or experimental material. This is an advantage, as such material would detract from the didactic power of the book. The book frankly aims at helping the junior student rather than the more advanced worker. The rules are arranged logically, from simple to complex. They are carefully chosen and are all fully justified by the facts of experimental psychology.

The book is a really valuable one, and cannot fail to help such students as read it carefully. Benefit would certainly be derived by members of the ordinary college freshman class if they were required to read it.

in study.  
OHIO WESLEYAN UNIVERSITY

GEORG.

#### NOTES AND NEWS

THE present number of the Bulletin has been prepared under the editorial direction of Professor Bird T. Baldwin, of the State University of Iowa.

PROFESSOR B. T. BALDWIN has been appointed head of the division of educational psychology and director of the new Child Welfare Research Station at the University of Iowa.

SPECIAL courses to train psychological examiners who may be needed by the Government for the mental examination of recruits are being conducted at Cornell University under the direction of Professor R. M. Ogden.

By vote of the Council, the meeting of the American Psychological Association will be held in Pittsburgh at the Carnegie Institute of Technology, December 27, 28, and 29, instead of in Ann Arbor.

PROFESSOR KNIGHT DUNLAP and Messrs. E. Bagby and S. Isaacs, of Johns Hopkins University, have accepted positions in the Government service in connection with investigations of aeronautic problems.

MR. DAVID A. ANDERSON, formerly associate Professor of Education in the University of Washington, has accepted the headship of the department of psychology and education in the Pennsylvania State College.

PROFESSOR J. MCK. CATTELL has resigned from, and Professors J. R. Angell and W. B. Scott have been added to the Psychology Committee of the National Research Council.

By action of the Board of Trustees of Columbia University, Professor J. McK. Cattell has been removed from the professorship of psychology.

THE following items have been taken from the press:

AT Dartmouth College Charles L. Stone has been appointed instructor in psychology.

AT Oberlin College Dr. Edward S. Jones, of Northwestern University, has been appointed professor of psychology, and Dr. C. C. W. Nichol, assistant professor of psychology, has been appointed acting dean of college men.

MR. E. A. DOLL, assistant psychologist in the Training School, Vineland, N. J., has accepted a position in the department of psychology at Princeton University.

MR. ARTHUR S. OTIS, of Stanford University, has been appointed assistant psychologist in the Training School, at Vineland, N. J.

THREE Iowa college professorships in psychology for the coming year have been filled from the graduate college of the State University of Iowa. Dr. Marie Andrew goes to Buena Vista, Dr. Merle Thompson goes to Morningside, and Dr. Nesta Williams has accepted a professorship at Central College.

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